

**DEPARTMENT OF TRANSPORTATION**

ESC/OE MS #43  
1737 30TH. Street 2ND. Floor  
SACRAMENTO, CA 945816



October 21, 1999

04-SM,Ala-92-R26.4/R30.2,R0.0/R4.3  
04-045014

Addendum No. 4

Dear Contractor:

This addendum is being issued to the contract for construction on State highway in SAN MATEO AND ALAMEDA COUNTIES IN FOSTER CITY AND HAYWARD FROM 3.8 km WEST OF THE COUNTY LINE TO 0.4 km EAST OF THE SAN MATEO-HAYWARD BRIDGE TOLL PLAZA.

Submit bids for this work with the understanding and full consideration of this addendum. The revisions declared in this addendum are an essential part of the contract.

Bids for this work will be opened on October 27, 1999.

This addendum is being issued to revise the Project Plans, the Notice to Contractors and Special Provisions, and the Proposal and Contract.

Project Plan Sheets 232 and 259 are revised. Half-sized copies of the revised sheets are attached for substitution for the like-numbered sheets.

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On Project Plan Sheet 59, under "SYMBOLS", "Preformed inductive loop detector" is deleted.

On Project Plan Sheet 138, under "SAN MATEO-HAYWARD BR. #35-0054 PC/PS DOUBLE-T GIRDER (ALTERNATIVE 1)", "DRILL AND BOND DOWEL" is deleted.

On Project Plan Sheet 138, under "SAN MATEO-HAYWARD BR. #35-0054 PC/PS BULB-T GIRDER (ALTERNATIVE 2)" the quantity for "DRILL AND BOND DOWEL" is revised from 354 m to 10 m.

On Project Plan Sheet 138, "SAN MATEO-HAYWARD BR. #35-0054 PC/PS VOIDED SLAB (ALTERNATIVE 3)" the quantity for "DRILL AND BOND DOWEL" is revised from 364 m to 10 m.

On Project Plan sheet 271, "PART TYPICAL SECTION NO. 1", the longitudinal reinforcement of "#16 tot 7 per PC Slab" is revised to "#22 tot 7 per PC Slab".

On Project Plan sheet 279, "PLAN" the stirrup spacing "@ 100" is revised to "@ 250".

In the Special Provisions, Section 3-1.01, "GENERAL", the following paragraph is added after the first paragraph:

"The contract shall be signed by the successful bidder and returned, together with the contract bonds within 4 days, not including Saturdays, and Sundays and legal holidays, after the bidder has received notice that the contract has been awarded."

In the Special Provisions, Section 5-1.14, "RELATIONS WITH SAN FRANCISCO BAY CONSERVATION DEVELOPMENT COMMISSION (BCDC)", the third paragraph is revised as follows:

"The Contractor's attention is directed to the following conditions, in addition to those established by the Bay Area Conservation and Development Commission in the permit for this project:

1. No dredging operations are allowed.
2. No Contractor's equipment will be allowed to rest on the bottom of the bay.
3. The use of temporary trestles or driving platforms that extend outside the limits of the new bridge footprint will not be allowed.
4. The use of a temporary staging platform at the west end of the project just north of the proposed new bridge will be allowed. The temporary staging platform shall not exceed 6,000 square feet of pile-supported fill and 350 square feet of solid fill.
5. For Alternatives 1 and 2, the use of a driving platform will be allowed. The entire driving platform must be positioned within the new bridge footprint at any given time during construction. To support the driving platform, the use of a 2,000-foot-long, temporary, pile-supported mobile railing, located along both sides of the proposed new bridge alignment will be allowed. The piles used to accommodate the mobile railing shall not exceed 600 square feet of temporary solid fill (200-24" diameter)."

In the Special Provisions, Section 8-4, "ULTIMATE SPLICE TESTING", is revised to "ULTIMATE BUTT SPLICING", and as attached.

In the Special Provisions, Section 10-1.14, "TRANSPORTATION FOR THE ENGINEER", the seventh paragraph is revised as follows:

"The Contractor shall furnish a licensed boat operator and crew members, as required for the boat's operation and in accordance with all Maritime Agreements and Laws, including, but not limited to, the regulations contained in Title 46 Code of Federal Regulation Section 16 and Sections 24 through 26. The boat must have a valid U.S. Coast Guard Certificate of Inspection (COI), and must be manned and operated in accordance with the COI. The boat, boat operator and crew shall be furnished 90 days after the award of the contract for the duration of the contract. The boat, boat operator and crew shall be furnished for the complete duration of the work, but no less than 8 hours each day on the days when the Contractor's work is in progress."

In the Special Provisions, Section 10-1.14, "TRANSPORTATION FOR THE ENGINEER", the thirteenth paragraph is revised as follows:

"Payment for furnishing a boat, boat operator and crew within the first 90 days after award of contract at the request of the Engineer and on the days when the Contractor's work is not in progress will be paid for as extra work as provided in Section 4-1.03D of the Standard Specifications. On the days when the Contractor's work is in progress and the complete duration of the work is a minimum 8 hours, payment for furnishing a boat, boat operator and crew in excess of the complete duration of the work will be paid for as extra work as provided in Section 4-1.03D of the Standard Specifications. On the days when the Contractor's work is in progress and the complete duration of the work is less than 8 hours, payment for furnishing a boat, boat operator and crew in excess of 8 hours will be paid for as extra work in Section 4-1.03D of the Standard Specifications. No additional payment will be made for furnishing the boat, boat operator and the crew in excess of the time specified herein any working day."

In the Special Provisions, Section 10-1.33, "PILING", subsection "MEASUREMENT AND PAYMENT (PILING)" is revised as attached.

In the Special Provisions, Section 10-1.36, "CONCRETE STRUCTURES", subsection "CONCRETE COATING", is revised as attached.

In the Special Provisions, Section 10-1.37, "PRECAST PRESTRESSED CONCRETE SLAB", is revised as attached.

In the Special Provisions, Section 10-1.42, "REINFORCEMENT," is revised as attached.

In the Special Provisions, Section 10-3.07, "STATE-FURNISHED CONTROLLER ASSEMBLIES," subsection "PREFORMED INDUCTIVE LOOPS", is deleted.

In the Proposal and Contract, "PROPOSAL TO THE DEPARTMENT OF TRANSPORTATION," the tenth paragraph is revised as follows:

"If this proposal shall be accepted and the undersigned shall fail to enter into the contract and furnish the 2 bonds in the sums required by the State Contract Act, with surety satisfactory to the Department of Transportation within 4 days, not including Saturdays, Sundays and legal holidays, after the bidder has received notice from the Department that the contract has been awarded, the Department of Transportation may, at its option, determine that the bidder has abandoned the contract, and thereupon this proposal and the acceptance thereof shall be null and void and the forfeiture of the security accompanying this proposal shall operate and the same shall be the property of the State of California."

In the Proposal and Contract, the Engineer's Estimate Items 100 and 119 are revised and Item 85 is deleted as attached.

To Proposal and Contract book holders:

- REPLACE THE ENTIRE PAGES 7, 8 AND 9 OF THE ENGINEER'S ESTIMATE IN THE PROPOSAL WITH THE ATTACHED REVISED PAGES 7, 8 AND 9 OF THE ENGINEER'S ESTIMATE. THE REVISED ENGINEER'S ESTIMATE IS TO BE USED IN THE BID.
- ATTACHED ARE THE DEPARTMENT'S RESPONSES TO THE CONTRACTORS' INQUIRIES. THE RESPONSES TO CONTRACTORS' INQUIRIES, UNLESS INCORPORATED INTO A FORMAL ADDENDA TO THE CONTRACT, ARE NOT A PART OF THE CONTRACT AND ARE PROVIDED FOR THE CONTRACTORS' CONVENIENCE ONLY. IN SOME INSTANCES, THE QUESTION AND ANSWER MAY REPRESENT A SUMMARY OF THE MATTERS DISCUSSED RATHER THAN A WORD-FOR-WORD RECITATION. THE AVAILABILITY OR USE OF INFORMATION PROVIDED IN THE RESPONSES TO CONTRACTORS' INQUIRIES IS NOT TO BE CONSTRUED IN ANY WAY AS A WAIVER OF THE PROVISIONS OF SECTION 2-1.03 OF THE STANDARD SPECIFICATIONS OR ANY OTHER PROVISIONS OF THE CONTRACT, THE PLANS, STANDARD SPECIFICATIONS OR SPECIAL PROVISIONS, NOR TO EXCUSE THE CONTRACTOR FROM FULL COMPLIANCE WITH THOSE CONTRACT REQUIREMENTS. BIDDERS ARE CAUTIONED THAT SUBSEQUENT RESPONSES OR CONTRACT ADDENDA MAY AFFECT OR VARY A RESPONSE PREVIOUSLY GIVEN.
- INDICATE RECEIPT OF THIS ADDENDUM BY FILLING IN THE NUMBER OF THIS ADDENDUM IN THE SPACE PROVIDED ON THE SIGNATURE PAGE OF THE PROPOSAL.
- Submit bids in the Proposal and Contract book you now possess. Holders who have already mailed their book will be contacted to arrange for the return of their book.
- Inform subcontractors and suppliers as necessary.

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This office is sending this addendum by UPS overnight mail to Proposal and Contract book holders to ensure that each receives it.

If you are not a Proposal and Contract book holder, but request a book to bid on this project, you must comply with the requirements of this letter before submitting your bid.

Sincerely,

ORIGINAL SIGNED BY

NICK YAMBAO, Chief  
Office of Plans, Specifications &  
Estimates  
Division of Office Engineer

Attachments

## SECTION 8-4. ULTIMATE BUTT SPLICING

### 8-4.01 ULTIMATE BUTT SPLICES

Ultimate butt splices and the testing of these splices shall conform to the provisions in "Reinforcement" of these special provisions and the requirements herein.

Ultimate butt splices shall be used at the following locations:

ULTIMATE BUTT SPLICE LOCATIONS

Location No.	Bridge No.	Portion of Structure	Bar Size	Bar Description
Location 1	35-0054	Piling	No. 25	Hoops
Location 2	35-0054	Piling	No. 32	Longitudinal reinforcement
Location 3	35-0054	Piling	No. 29	Longitudinal reinforcement
Location 4	35-0054	Alternative No. 2 PC/PS concrete girders	No. 36	Girder reinforcing bars extending through bent cap

The length of any type of ultimate mechanical butt splice shall not exceed 10 times the bar diameter of the bar to be spliced.

The independent qualified testing laboratory used to perform the testing of all ultimate butt sample splices and control bars shall not be employed or compensated by any subcontractor, or by other persons or entities hired by subcontractors, who will provide other services or materials for the project and shall have the following:

- A. Proper facilities, including a tensile testing machine capable of breaking the largest size of reinforcing bar to be tested.
- B. A device for measuring the total slip of the reinforcing bars within the splice to the nearest 25  $\mu$ m. This device shall be placed parallel to the longitudinal axis of the bar and shall be able to simultaneously measure movement on both sides of the splice.
- C. Operators who have received formal training for performing the testing requirements of ASTM Designation: A 370/A 370M and California Test 670.
- D. A record of annual calibration of testing equipment. The calibration shall be performed by an independent third party that has 1) standards that are traceable to the National Institute of Standards and Technology and 2) a formal reporting procedure, including published test forms.

The Contractor shall designate in writing an ultimate butt splicing Quality Control Manager (QCM). The QCM shall be responsible directly to the Contractor for 1) the quality of all ultimate butt splicing, including the inspection of materials and workmanship performed by the Contractor and all subcontractors; and 2) submitting, receiving, and approving all correspondence, required submittals, and reports regarding ultimate butt splicing to and from the Engineer.

The QCM shall not be employed or compensated by any subcontractor, or by other persons or entities hired by subcontractors, who will provide other services or materials for the project. The QCM may be an employee of the Contractor.

Whenever any lot of ultimate butt splices is rejected, no additional ultimate butt splices shall be used in the work until 1) the QCM performs a complete review of the Contractor's quality control process for these splices, 2) a written report is submitted to the Engineer describing the cause of failure for the splices in this lot and provisions for correcting these failures in future lots, and 3) the Engineer has provided the Contractor with written notification that the report is acceptable. The Engineer shall have 3 working days after receipt of the report to provide notification to the Contractor. Should the Engineer not provide notification within this time allowance, and if, in the opinion of the Engineer, the Contractor's controlling operation is delayed or interfered with by reason of this action, the delay will be considered a right of way delay in conformance with the provisions in Section 8-1.09, "Right of Way Delays," of the Standard Specifications.

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All sample splices shall be 1) a minimum length of 1.5 meters for reinforcing bars No. 25 or smaller and 2 meters for reinforcing bars No. 29 or larger, with the splice located at mid-point, and 2) suitably identified prior to shipment with weatherproof markings that do not interfere with the Engineer's tamper-proof markings or seals. Any splice that shows signs of tampering will be rejected.

A minimum of one control bar shall be removed from the same bar as, and adjacent to, each sample splice. Control bars shall be 1) a minimum length of one meter for reinforcing bars No. 25 or smaller and 1.5 meters for reinforcing bars No. 29 or larger, and 2) suitably identified prior to shipment with weatherproof markings that do not interfere with the Engineer's tamper-proof markings or seals. The portion of adjacent bar remaining in the work shall also be identified with weatherproof markings that correspond to its adjacent control bar.

Shorter length sample splice and control bars may be furnished if approved in writing by the Engineer.

Each sample splice and its associated control bar shall be identified and marked as a set. Each set shall be identified as representing a prequalification, production, or job control sample splice.

The portion of hoop reinforcing bar, removed to obtain a sample splice and control bar, shall be replaced using a prequalified ultimate mechanical butt splice or the hoop shall be replaced in kind.

Reinforcing bars, other than hoops, from which sample splices are removed, shall be repaired using prequalified ultimate mechanical butt splices or the bars shall be replaced in kind. These bars shall be repaired or replaced such that no splices are located in the "No Splice Zone" shown on the plans.

Section 52-1.08E, "Job Control Tests," of the Standard Specifications shall not apply.

### **ULTIMATE BUTT SPLICE TEST CRITERIA**

Ultimate prequalification, production, and job control sample splices shall be tensile tested in conformance with the requirements described in ASTM Designation: A 370/A 370M and California Test 670.

Ultimate prequalification and production sample splices shall rupture in the reinforcing bar either: 1) outside of the affected zone or 2) within the affected zone, provided that the sample has achieved at least 95 percent of the ultimate tensile strength of the control bar associated with the sample. In addition, necking of the bar shall be visibly evident at rupture regardless of whether the bar breaks inside or outside the affected zone.

The affected zone is the portion of the reinforcing bar where any properties of the bar, including the physical, metallurgical, or material characteristics, have been altered by fabrication or installation of the splice.

The ultimate tensile strength of each control bar shall be determined by tensile testing the bar to rupture and shall be determined for all control bars, regardless of where each sample splice ruptures. If 2 control bars are tested for one sample splice, the bar with the lower ultimate tensile strength shall be considered the control bar.

Testing to determine the minimum tensile strength, in conformance with the provisions in the ninth paragraph of Section 52-1.08, "Splicing," of the Standard Specifications, will not be required.

### **PREQUALIFICATION TEST REQUIREMENTS FOR ULTIMATE BUTT SPLICES**

Prior to use in the work, all welded and mechanical ultimate butt splices shall conform to the following prequalification test requirements:

- A. Eight prequalification sample splices for each bar size of each splice type including ultimate mechanical butt splices, ultimate complete joint penetration butt welded splices, and ultimate resistance butt welded splices, that will be used in the work, shall be fabricated by the Contractor. For deformation-dependent types of couplers, 8 sample prequalification splices shall also be fabricated for each reinforcing bar size and deformation pattern that will be used in the work.
- B. The sample splices shall be fabricated using the same splice materials, position, operators, location, and equipment, and following the same procedures as will be used to make the splices in the work. In addition, for resistance butt welded splices, the sample splices shall have the weld flash removed and be epoxy-coated as specified elsewhere in these special provisions.
- C. At option of the Contractor, operator qualification tests may be performed simultaneously with the preparation of prequalification sample splices.
- D. If different diameters of hoop reinforcement are shown on the plans, prequalification sample splices, as described above, will only be required for the smallest hoop diameter. In addition, these splices shall be fabricated using the same radius as shown on the plans for these hoops.
- E. Unless otherwise directed in writing by the Engineer, 4 prequalification sample splices and control bar sets shall be shipped to the Transportation Laboratory and the remaining 4 sets shall be tested by the Contractor's independent qualified testing laboratory.

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- F. Each group of 4 sets from a prequalification test shall be securely bundled together and identified by location and contract number with weatherproof markings prior to shipment. Bundles containing fewer than 4 sets will not be tested by the Transportation Laboratory nor shall they be tested by the independent laboratory.
- G. All 8 sample splices from each prequalification test shall conform to the provisions in "Ultimate Butt Splice Test Criteria" specified herein.
- H. Prior to performing any tensile tests on prequalification test sample splices, one of the 4 samples shall be tested for, and shall conform to, the provisions for total slip. Should this sample not meet these requirements, one retest, in which the 3 remaining samples are tested for total slip, will be allowed. All 3 of these remaining samples tested shall conform to the aforementioned slip requirements.
- I. For each bundle of 4 sets, a Prequalification Test Report shall be prepared by the independent testing laboratory performing the testing. The report shall 1) be signed by an engineer, who represents the laboratory, and is registered as a Civil Engineer in the State of California; 2) include, as a minimum, the following information for each set: contract number, bridge number, bar size, type of splice, length of mechanical splice, physical condition of test sample splice and control bar, any notable defects, limits of affected zone, total measured slip, location of visible necking area, ultimate strength of each splice, ultimate strength and 95 percent of this ultimate strength for each control bar, and a comparison between 95 percent of the ultimate strength of each control bar and the ultimate strength of its associated splice; and 3) be submitted to the QCM for review and approval, and then to the Engineer.
- J. Test results for each bundle of 4 sets will be reported in writing to the Contractor within 10 working days after receipt of the bundle by the Transportation Laboratory. In the event that more than one bundle is received on the same day, 2 additional working days shall be allowed for providing test results for each additional bundle received. A test report will be made for each bundle received.
- K. Should the Engineer fail to provide the test results within this time allowance and if, in the opinion of the Engineer, the Contractor's controlling operation is delayed or interfered with by reason of the delay in providing the test results, the delay will be considered a right of way delay in conformance with the provisions in Section 8-1.09, "Right of Way Delays," of the Standard Specifications.

#### **PRODUCTION TEST REQUIREMENTS FOR ULTIMATE BUTT SPLICES**

Production tests shall be performed for all welded and mechanical ultimate butt splices used in the work. A production test shall consist of 4 sets of sample splices and control bars removed from each lot of completed splices, except when quality assurance tests are performed.

A lot of ultimate butt splices is defined as 1) 150, or fraction thereof, of the same type of ultimate mechanical butt splices used for each bar size and each bar deformation pattern that is used in the work or 2) 150, or fraction thereof, of ultimate complete joint penetration butt welded splices, or ultimate resistance butt welded splices for each bar size used in the work. If different diameters of hoop reinforcement are shown on the plans, separate lots shall be used for each different hoop diameter.

After all splices in a lot have been completed and the bars have been epoxy-coated, the QCM shall notify the Engineer in writing that all couplers in this lot conform to the specifications and are ready for testing. The sample splices will either be selected by the Engineer at the job site, or a fabrication facility, provided the facility is located within an 80-km radius of the jobsite.

At the option of the Contractor, sample splices for spiral reinforcement may either 1) be removed from the completed lot, or 2) be prepared in the same manner as specified herein for ultimate prequalification sample splices and control bars.

After notification has been received, the Engineer will randomly select the 4 sample splices to be removed from the lot and place tamper-proof markings or seals on them. The Contractor or QCM shall select the adjacent control bar for each sample splice bar and the Engineer will place tamper-proof markings or seals on them. These ultimate production sample splices and control bars shall be removed by the Contractor, and tested by an independent qualified testing laboratory, in the presence of either the Engineer or the Engineer's authorized representative.

The Engineer or the Engineer's authorized representative will be at the independent qualified testing laboratory within a maximum of 5 working days after receiving written notification that the samples are at the laboratory and ready for testing. Should the Engineer or the Engineer's authorized representative fail to be at the laboratory within this time allowance, and if, in the opinion of the Engineer, the Contractor's controlling operation is delayed or interfered with by reason of this action, the delay will be considered a right of way delay in conformance with the provisions in Section 8-1.09, "Right of Way Delays," of the Standard Specifications.

A sample splice or control bar from any set will be rejected if any tamper-proof marking or seal is disturbed prior to testing.

The 4 sets from each production test shall be securely bundled together and identified with a completed sample identification card prior to shipment to the independent laboratory. The card will be furnished by the Engineer. Bundles of samples containing fewer than 4 sets of splices shall not be tested.

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A Production Test Report for all testing performed on each lot shall be prepared by the independent testing laboratory performing the testing and submitted to the QCM for review and approval. The report shall be signed by an engineer, who represents the laboratory, and is registered as a Civil Engineer in the State of California. The report shall include, as a minimum, the following information for each set: contract number, bridge number, lot number and location, bar size, type of splice, length of mechanical splice, physical condition of test sample splice and control bar, any notable defects, limits of affected zone, total measured slip, location of visible necking area, ultimate strength of each splice, ultimate strength and 95 percent of this ultimate strength for each control bar, and a comparison between 95 percent of the ultimate strength of each control bar and the ultimate strength of its associated splice.

The QCM must review, approve and forward each Production Test Report to the Engineer for review before any splices represented by the report are encased in concrete. The Engineer shall have 3 working days to review each Production Test Report and respond in writing after a complete report has been received. Should the Contractor elect to encase any splices prior to receiving notification from the Engineer, it is expressly understood that the Contractor will not be relieved of the Contractor's responsibility for incorporating material in the work that conforms to the requirements of the plans and specifications. Any material not conforming to these requirements will be subject to rejection. Should the Contractor elect to wait to encase any splices pending notification by the Engineer, and should the Engineer fail to complete the review and provide notification within this time allowance, and if, in the opinion of the Engineer, the Contractor's controlling operation is delayed or interfered with by reason of the delay in notification, the delay will be considered a right of way delay in conformance with the provisions in Section 8-1.09, "Right of Way Delays," of the Standard Specifications.

Prior to performing any tensile tests on production test sample splices, one of the 4 samples shall be tested for, and shall conform to, the provisions for total slip. Should this sample not meet these requirements, one retest, in which the 3 remaining samples are tested for total slip, will be allowed. Should any of the 3 remaining samples not conform to these requirements, all splices in the lot represented by this production test will be rejected.

If 3 or more sample splices from any production test conform to the requirements of "Ultimate Butt Splice Test Criteria" specified herein, all splices in the lot represented by this production test will be considered acceptable.

Should only 2 sample splices from any production test conform to the requirements of "Ultimate Butt Splice Test Criteria" specified herein, one additional production test shall be performed on the same lot of splices. If all 4 sample splices from this additional test do not conform to these requirements, all splices in the lot represented by these production tests will be rejected.

If only one sample splice from any production test conforms to the requirements of "Ultimate Butt Splice Test Criteria" specified herein, all splices in the lot represented by this production test will be rejected.

If a production test for any lot fails, the Contractor will be required to repair or replace all reinforcing bars from which sample splices were removed, complete in place, before the Engineer selects any additional splices from this lot for further testing.

Production tests will not be required on any repaired splice from a lot, regardless of the type of prequalified ultimate mechanical butt splice used to make the repair.

Should an additional production test be required, the Engineer may select any repaired splice for use in the additional production test.

#### **QUALITY ASSURANCE TEST REQUIREMENTS FOR ULTIMATE BUTT SPLICES**

For the first production test performed, and for at least one, randomly selected by the Engineer, of every 5 additional production tests, or portion thereof, performed thereafter, the Contractor shall concurrently prepare 4 additional ultimate job control sample splices along with associated control bars. These ultimate job control samples shall be prepared in the same manner as specified herein for ultimate prequalification sample splices and control bars.

Each time 4 additional ultimate job control sample splices are prepared, 2 of these job control sample splice and associated control bar sets and 2 of the production sample splice and associated control bar sets, together, shall conform to the requirements for ultimate production sample splices in "Production Test Requirements for Ultimate Butt Splices" specified herein.

The 2 remaining job control sample splice and associated control bar sets, along with the 2 remaining production sample splice and associated control bar sets shall be shipped, unless otherwise directed in writing by the Engineer, to the Transportation Laboratory for quality assurance testing. The 4 sets shall be securely bundled together and identified by location and contract number with weatherproof markings prior to shipment. Bundles containing fewer than 4 sets will not be tested.

Quality assurance testing will be performed in conformance with the requirements for ultimate production sample splices in "Production Test Requirements for Ultimate Butt Splices" specified herein.

Test results for each bundle of 4 sets will be reported in writing to the Contractor within 3 working days after receipt of the bundle by Transportation Laboratory. In the event that more than one bundle is received on the same day, one additional calendar day shall be allowed for providing test results for each additional bundle received. A test report will be made for

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each bundle received. Should the Contractor elect to encase any splices prior to receiving notification from the Engineer, it is expressly understood that the Contractor will not be relieved of the Contractor's responsibility for incorporating material in the work that conforms to the requirements of the plans and specifications. Any material not conforming to these requirements will be subject to rejection. Should the Contractor elect to wait to encase any splices pending notification by the Engineer, and should the Engineer fail to complete the review and provide notification within this time allowance, and if, in the opinion of the Engineer, the Contractor's controlling operation is delayed or interfered with by reason of the delay in notification, the delay will be considered a right of way delay in conformance with the provisions in Section 8-1.09, "Right of Way Delays," of the Standard Specifications.

#### **MEASUREMENT AND PAYMENT**

Full compensation for conforming to all of the requirements of this section, "Ultimate Butt Splices," shall be considered as included in the contract prices paid for the various contract items of work involved and no additional compensation will be allowed therefor.

## **MEASUREMENT AND PAYMENT (PILING)**

Measurement and payment for the various types and classes of piles shall conform to the provisions in Sections 49-6.01, "Measurement," and 49-6.02, "Payment," of the Standard Specifications and these special provisions.

The length of furnish 1065 mm piling listed in the Engineer's Estimate is based on the specified tip elevation shown on the plans for precast prestressed concrete pile alternative. The payment for the contract item to furnish 1065 mm piling will be based on the length of pile driven.

Full compensation for furnishing and placing epoxy coated reinforcement in piling shown on the plans for 600mm or larger in diameter shall be considered as included in the contract price paid per meter for furnish pile and no separate payment will be made therefor.

Full compensation for furnishing and placing concrete and epoxy coated reinforcement in the void of the precast prestressed concrete piling as shown on the plans shall be considered as included in the contract unit price paid for drive pile and no separate payment will be made therefor.

Full compensation for furnishing and placing additional testing reinforcement, load test anchorages, and for cutting off test piles as specified shall be considered as included in the contract price paid for piling of the type or class shown in the Engineer's Estimate, and no additional compensation will be allowed.

No additional compensation or extension of time will be made for additional foundation investigation, installation and testing of indicator piling, cutting off piling and restoring the foundation investigation and indicator pile sites, and review of request by the Engineer.

The sixth paragraph in Section 49-6.02, "Payment," of the Standard Specifications is amended to read:

If precast prestressed concrete piling or steel pipe piling is manufactured or fabricated more than 480 air line kilometers from both Sacramento and Los Angeles, additional shop inspection expenses will be sustained by the State. Whereas it is and will be impractical and extremely difficult to ascertain and determine the actual increase in such expenses, it is agreed that payment to the Contractor for furnishing piling of the types shown in the Engineer's Estimate will be reduced \$5000 for each manufacture or fabrication site located more than 480 air line kilometers from both Sacramento and Los Angeles and an additional \$3000 (\$8000 total) for each manufacture or fabrication site located more than 4800 air line kilometers from both Sacramento and Los Angeles.

Full compensation for cleaning out the open ended steel shells prior to installing reinforcement and filling with concrete, for disposing of materials removed from inside the pile including hazardous and contaminated material, and for placing seal course concrete and dewatering the open ended steel shells, as shown on the plans, and as specified in these special provisions, and as directed by the Engineer shall be considered as included in the contract unit price paid for drive pile and no additional compensation will be allowed therefor.

Full compensation for conforming to the requirements of "Steel Pipe Piling" of these special provisions shall be considered as included in the contract prices paid for the various contract items of work involved and no additional compensation will be allowed therefor.

Full compensation for redriving monitored piles, for providing access for the Engineer, dewatering during monitoring, tapping holes in piles, furnishing and installing plates, and for installing and removing the instruments from the pile and removal of the pile shall be considered as included in the contract unit price paid for drive pile and no separate payment will be made therefor. The length of piling to be paid as furnish piling of the classes listed in the Engineer's Estimate shall include the lengths that monitored piles are redriven.

Test piles will be measured and paid for as furnish piling and drive pile of the sizes shown on the plans and listed in the Engineer's Estimate.

Anchor piles will be measured and paid for as furnish anchor piling and drive anchor pile of the sizes shown on the plans and listed in the Engineer's Estimate.

Full compensation for furnishing, constructing and removing pile driving template system including submittal of system for review shall be considered as included in the contract unit price paid for drive pile and no additional compensation will be allowed therefor.

Full compensation for furnishing, driving, cleaning out and disposing of materials removed in isolation casings, including hazardous and contaminated material, and removing isolation casings shall be considered as included in the contract prices paid for the various items of pile work involved and no separate payment will be allowed therefor.

Full compensation for cleaning out and for disposing of materials removed, including hazardous and contaminated material, in open ended concrete piles shall be considered as included in the contract unit price paid for drive pile and no additional compensation will be allowed therefor.

Full compensation for drilling through the center of piling, disposing of material resulting from drilling, and furnishing and placing slurry cement backfill shall be considered as included in the contract unit price paid for drive pile, and no additional compensation will be allowed therefor.

Driving piles a maximum of 50 mm below plane of pile cut off, forming and finishing the pile will be measured and paid for by the meter as furnish piling of the size shown on the plans and listed in the Engineer's Estimate and no additional compensation will be allowed therefor.

Driving piles up to an additional 75 mm above plane of pile cut off will be measured and paid for by the meter as furnish piling of the size shown on the plans and listed in the Engineer's Estimate and no additional compensation will be allowed therefor.

**CONCRETE COATINGS.**--All exposed concrete surfaces, except riding surfaces and concrete barrier, shall be covered with one of the following concrete coating systems. The upper one-third of the concrete piles shall be coated.

The Contractor shall select one concrete coating system to be used to coat all concrete surfaces specified herein.

Concrete coatings shall be used in conformance with the manufacturer's written recommendations and these special provisions.

Each shipment of concrete coating shall be accompanied by the manufacturer's recommendations for application of concrete coating and a Certificate of Compliance conforming to Section 6-1.07, "Certificates of Compliance," of the Standard Specifications.

The coating shall be applied at least 30 days after fabrication of the precast members. At least 48 hours prior to application of the coating, the entire concrete surface shall be abrasive blast cleaned. Holes with a minimum dimension of 13 mm shall be filled with epoxy mortar. Cracks greater than 0.25 mm and less than 0.76 mm shall be repaired with epoxy prior to coating the member. Cracks greater than 0.76 mm shall be repaired in conformance with the manufacturer's recommendations.

The epoxy adhesive shall be furnished and applied in conformance with the provisions in Sections 95-1, "General," and 95-2.013, "Binder (Adhesive), Epoxy Resin Base (State Specification 8040-01F-03)," of the Standard Specifications.

The coating shall be applied in accordance with the requirements of the National Association of Corrosion Engineers, RP-0892.

The color of the concrete coating shall closely match the color of the concrete members to be coated.

Cleaning shall remove all dirt, debris and other deleterious materials including removal of existing cement matrix sufficient to expose the fine aggregates with minimal exposure of the coarse aggregates.

After cleaning, the concrete surface shall be air blown to remove loose surface material. The concrete surface shall be dry when coating is applied. The concrete coating shall be applied in one or more applications to a minimum dry thickness of 1.5 mm. The top surface of the member shall not require coating.

The Contractor shall arrange for a manufacturer's technical representative to be on site to advise and instruct the Contractor and the Engineer on the manufacturer's recommended installation practices and procedures for the duration of the coating operation.

Full compensation for furnishing and applying concrete coatings and for services of the manufacturer's technical representative shall be considered as included in the contract price paid for the various items of work involved and no separate payment will be allowed therefor.

### **10-1.37 PRECAST PRESTRESSED CONCRETE SLABS**

Precast prestressed concrete slabs shall conform to the provisions in Section 51, "Concrete Structures," of the Standard Specifications and these special provisions.

Bar reinforcing steel for use in precast prestressed concrete slabs shall conform to the provisions in "Epoxy-coated Prefabricated Reinforcement," elsewhere in these special provisions.

Forms for providing the circular voids in the slabs shall be watertight and shall be constructed of an approved material that will resist breakage or deformation during the placement of the concrete and will not materially increase the dead load of the span. The forms shall be properly supported and tied and shall remain in correct position at all times during the placement of the concrete.

Except where otherwise shown on the plans, the top surface of the slab shall be given a coarse texture by brooming with a stiff bristled broom or by other suitable devices which will result in uniform transverse scoring, in advance of curing operations. The requirements of the seventh paragraph of Section 51-1.17, "Finishing Bridge Decks," of the Standard Specifications shall not apply.

The top surfaces and sides of the concrete slabs shall be cleaned of surface laitance, curing compound or other foreign material. Exposure of clean aggregate will not be required.

When slab spans with asphalt concrete overlay are shown on the plans, the removal of laitance and curing compound from top surfaces will not be required.

After the concrete slabs are in final position, the anchor dowel holes shall be filled with mortar.

Keyways shall be filled with fine aggregate grout conforming to the provisions for grout in Section 50-1.09 "Bonding and Grouting," of the Standard Specifications except as follows:

Fine aggregate shall be used, but only to the extent that the cement content is not less than 400 kilograms per cubic meter of grout. Fine aggregate shall conform to the requirements of Section 90-2, "Materials," of the Standard Specifications. Fine aggregate shall contain a maximum of 30 percent pea gravel. The maximum size of pea gravel shall be such that 100 percent passes the 12.5-mm screen and a minimum of 90 percent passes the 9.5-mm screen.

The penetration of the fine aggregate grout shall be near the lower limit of the specified nominal penetration. Keyways shall be mortar tight before placing fine aggregate grout. The fine aggregate grout shall be thoroughly consolidated.

No equipment or other loads will be allowed on any span until at least 72 hours after the last mortar has been placed in the anchor dowel holes or the last concrete has been placed in the keyways.

Precast prestressed concrete slabs will be measured by the unit for furnish precast prestressed concrete slab of the various types shown on the plans and by the unit for erect precast prestressed concrete deck as shown on the plans.

Full compensation for furnishing and placing mortar in holes and fine aggregate grout in keyways shall be considered as included in the contract price paid per square meter for the various types of precast prestressed concrete slab and no additional compensation will be allowed therefor.

## 10-1.42 REINFORCEMENT

Reinforcement shall conform to the provisions in Section 52, "Reinforcement," of the Standard Specifications and these special provisions.

The length of any type of ultimate mechanical butt splice shall not exceed 10 times the bar diameter of the bar to be spliced.

Unless otherwise specified, the splice sleeves for the 1065 mm precast prestressed concrete piling shall have a clear coverage of not less than 25 mm measured from the interior surface of the concrete piling to the outside of the sleeve. Stirrups, ties, and other reinforcement shall be placed to provide planned clear coverage to reinforcement.

For Alternative 2, the connection between the 2 mechanical butt splices for the No. 36 bars at the bent cap shall be between 305 mm and 457 mm in length. The requirement for staggering butt splices will be waived.

If individual hoops, made continuous with butt welded splices, are substituted for spiral reinforcement, the hoops shall conform to the requirements for No. 25 hoops in Section 8-4 "Ultimate Splice Testing" of these special provisions.

The first paragraph of Section 52-1.02A, "Bar Reinforcement," of the Standard Specifications is amended to read:

**52-1.02A Bar Reinforcement.**—Reinforcing bars shall be low-alloy steel deformed bars conforming to the requirements in ASTM Designation: A 706/A 706M, except that deformed or plain billet-steel bars conforming to the requirements in ASTM Designation: A 615/A 615M, Grade 300 or 420, may be used as reinforcement in the following 5 categories:

1. Slope and channel paving;
2. Minor structures;
3. Sign and signal foundations (pile and spread footing types);
4. Roadside rest facilities; and
5. Concrete barrier Type 50 and Type 60 series and temporary railing.

Deformations specified in ASTM Designation: A 706/A 706M will not be required on bars used as spiral or hoop reinforcement in structures and concrete piles.

Section 52-1.02C, "Welded Wire Fabric," of the Standard Specifications is amended to read:

**52-1.02C Welded Wire Fabric.**—Welded wire fabric shall be either plain or deformed conforming to the requirements in ASTM Designation: A 185 or ASTM Designation: A 497, respectively.

The last paragraph of Section 52-1.07, "Placing," of the Standard Specifications is amended to read:

Whenever a portion of an assemblage of bar reinforcing steel that is not encased in concrete exceeds 6 m in height, the Contractor shall submit to the Engineer for approval, in accordance with the provisions in Section 5-1.02, "Plans and Working Drawings," working drawings and design calculations for the temporary support system to be used. The working drawings and design calculations shall be signed by an engineer who is registered as a Civil Engineer in the State of California. The temporary support system shall be designed to resist all expected loads and shall be adequate to prevent collapse or overturning of the assemblage. If the installation of forms or other work requires revisions to or temporary release of any portion of the temporary support system, the working drawings shall show the support system to be used during each phase of construction. The minimum horizontal wind load to be applied to the bar reinforcing steel assemblage, or to a combined assemblage of reinforcing steel and forms, shall be not less than 960 Pa on the gross projected area of the assemblage.

The first paragraph of Section 52-1.08, "Splicing," of the Standard Specifications is amended to read:

**52-1.08 Splicing.**—Splicing of reinforcing bars shall be by lapping, butt welding, mechanical butt splicing, or mechanical lap splicing, at the option of the Contractor. Reinforcing bars Nos. 43 through 57 shall not be spliced by lapping.

The sixth paragraph of Section 52-1.08, "Splicing," of the Standard Specifications is amended to read:

Except when otherwise specified, mechanical lap splicing shall conform to the details shown on the plans, the requirements for mechanical butt splices as specified in this Section 52-1.08, and Sections 52-1.08C, "Mechanical Butt Splices," 52-1.08D, "Qualification of Welding and Mechanical Splicing," and 52-1.08E, "Job Control Tests," and the following:

The mechanical lap splice shall be a unit consisting of a sleeve, in which the reinforcing bars are positioned, and a wedge driven through holes in the sleeve and between the reinforcing bars. The mechanical lap splice shall only be used for splicing non-epoxy-coated deformed reinforcing bars Nos. 13, 16 and 19.

The eighth and ninth paragraphs of Section 52-1.08, "Splicing," of the Standard Specifications are amended to read:

Unless otherwise shown on the plans or approved by the Engineer, splices in adjacent reinforcing bars at any particular section shall be staggered. The minimum distance between staggered lap splices or mechanical lap splices shall be the same length required for a lapped splice in the largest bar. The minimum distance between staggered butt splices shall be 1500 mm. Distances shall be measured between the midpoints of the splices along a line which is centered between the axes of the adjacent bars.

Completed butt splices shall develop a minimum tensile strength, based on the nominal bar area, of 430 MPa for ASTM Designation: A 615/A 615M, Grade 300 bars, and 550 MPa for ASTM Designation: A 615/A 615M, Grade 420 and ASTM Designation: A 706/A 706M bars. If butt splices are made between 2 bars of dissimilar strengths, the minimum required tensile strength for the splice shall be that required for the weaker bar.

The second sentence of the eleventh paragraph of Section 52-1.08, "Splicing," of the Standard Specifications is amended to read:

Job control tests shall be made on sample splices representing each lot of mechanical butt splices as provided in Section 52-1.08E, "Job Control Tests."

The third and fourth paragraphs of Section 52-1.08A, "Lapped Splices," of the Standard Specifications are amended to read:

Where ASTM Designations: A 615/A 615M, Grade 420 or A 706/A 706M reinforcing bars are required, the length of lapped splices shall be as follows: Reinforcing bars No. 25, or smaller, shall be lapped at least 45 diameters of the smaller bar joined, and reinforcing bars Nos. 29, 32 and 36 shall be lapped at least 60 diameters of the smaller bar joined, except when otherwise shown on the plans.

Where ASTM Designation: A 615/A 615M, Grade 300 reinforcing bars are permitted, the length of lapped splices shall be as follows: Reinforcing bars No. 25, or smaller, shall be lapped at least 30 diameters of the smaller bar joined, and reinforcing bars Nos. 29, 32 and 36 shall be lapped at least 45 diameters of the smaller bar joined, except when otherwise shown on the plans.

Section 52-1.08B, "Butt Welded Splices," of the Standard Specifications is amended to read:

**52-1.08B Butt Welded Splices.**—Butt welded splices in reinforcing bars shall be complete joint penetration butt welds conforming to the requirements in AWS D1.4, and the requirements of these specifications and the special provisions.

At the option of the Contractor, shop produced resistance butt welds, that are produced by a fabricator who is approved by the Transportation Laboratory, may be used. These welds shall conform to the requirements of these specifications and the special provisions.

Only the joint details and dimensions as shown in Figure 3.2, "Direct Butt Joints," of AWS D 1.4-92, shall be used for making complete joint penetration butt welds of bar reinforcement. Split pipe backing shall not be used.

Material used as backing for complete joint penetration butt welds of bar reinforcement shall be a flat plate conforming to the requirements in ASTM Designation: A 709/A 709M, Grade 36[250]. The flat plate shall be 6 mm thick with a width, as measured perpendicular to the axis of the bar, equal to the nominal diameter of the bar, and a length which does not exceed twice the nominal diameter of the bar. The flat plate backing shall be fitted tightly to the bar with the root of the weld centered on the plate. Any bar deformation or obstruction preventing a tight fit shall be ground smooth and flush with the adjacent surface. Tack welds used to fit backing plates shall be within the weld root area so that they are completely consumed by the finished weld. Backing plates shall not be removed.

Butt welds shall be made with multiple weld passes using a stringer bead without an appreciable weaving motion. The maximum stringer bead width shall be 2.5 times the diameter of the electrode and slagging shall be performed between each weld pass. Weld reinforcement shall not exceed 4 mm in convexity.

Before any electrodes or flux-electrode combinations are used, the Contractor, at the Contractor's expense, shall furnish certified copies of test reports for all the pertinent tests specified in AWS A5.1, AWS A5.5, AWS A5.18 or AWS A5.20, whichever is applicable, made on electrodes or flux-electrode combinations of the same class, brand and nearest specified size as the electrodes to be used. The tests may have been made for process qualification or quality control, and shall have been made within one year prior to manufacture of the electrodes and fluxes to be used. The

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report shall include the manufacturer's certification that the process and material requirements were the same for manufacturing the tested electrodes and the electrodes to be used. The forms and certificates shall be as directed by the Engineer.

Electrodes for manual shielded metal arc welding of ASTM Designation: A 615/A 615M, Grade 420 bars shall conform to the requirements in AWS A5.5 for E9018-M or E10018-M electrodes.

Electrodes for manual shielded metal arc welding of ASTM Designation: A 706/A 706M bars shall conform to the requirements of AWS A5.5 for E8016-C3 or E8018-C3 electrodes.

Solid and composite electrodes for semiautomatic gas metal-arc and flux-cored arc welding of Grade 300 reinforcing bars shall conform to the requirements of AWS A5.18 for ER70S-2, ER70S-3, ER70S-6 or ER70S-7 electrodes; or AWS A5.20 for E70T-1, E70T-5, E70T-6 or E70T-8 electrodes.

Electrodes for semiautomatic welding of ASTM Designation: A 615/A 615M, Grade 420 and ASTM Designation: A 706/A 706M bars shall produce a weld metal deposit with properties conforming to the requirements of Section 5.3.4 of AWS D1.1-96 for ER80S-Ni1, ER80S-Ni2, ER80S-Ni3, ER80S-D2, E90T1-K2 and E91T1-K2 electrodes.

Reinforcing bars shall be preheated for a distance of not less than 150 mm on each side of the joint prior to welding.

For all welding of ASTM Designation: A 615/A 615M, Grade 300 or Grade 420 bars, the requirements of Table 5.2, "Minimum Preheat and Interpass Temperatures," of AWS D1.4-92 are superseded by the following:

The minimum preheat and interpass temperatures shall be 200°C for Grade 300 bars and 300°C for Grade 420 bars. Immediately after completing the welding, at least 150 mm of the bar on each side of the splice shall be covered by an insulated wrapping to control the rate of cooling. The insulated wrapping shall remain in place until the bar has cooled below 90°C.

When welding different grades of reinforcing bars, the electrode shall conform to Grade 300 bar requirements and the preheat shall conform to the Grade 420 bar requirements.

In the event that any of the specified preheat, interpass and post weld cooling temperatures are not met, all weld and heat affected zone metal shall be removed and the splice rewelded.

Welding shall be protected from air currents, drafts, and precipitation to prevent loss of heat or loss of arc shielding. The method of protecting the welding area from loss of heat or loss of arc shielding shall be subject to approval by the Engineer.

Reinforcing bars shall not be direct butt spliced by thermite welding.

The first paragraph of Section 52-1.08C, "Mechanical Butt Splices," of the Standard Specifications is amended to read:

**52-1.08C Mechanical Butt Splices.**—Mechanical butt splices shall be the sleeve-filler metal type, the sleeve-threaded type, the sleeve-swaged type, the sleeve-filler grout type, the sleeve-lockshear bolt type, the two-part sleeve-forged bar type, or the two-part sleeve-friction bar type, at the option of the Contractor.

In the Special Provisions, Section 10-1.42, "Reinforcement," on page 149, the second paragraph should be replaced with the following:

The third paragraph of Section 52-1.08C, "Mechanical Butt Splices," of the Standard Specifications is amended to read:

The total slip of the reinforcing bars within the splice sleeve after loading in tension to 200 MPa and relaxing to 20 MPa shall not exceed the values listed in the following table. The slip shall be measured between gage points clear of the splice sleeve.

Reinforcing Bar Number	Total Slip (µm)
13	250
16	250
19	250
22	350
25	350
29	350
32	450
36	450
43	600
57	750

The following is added after the third paragraph of Section 52-1.08C, "Mechanical Butt Splices," of the Standard Specifications:

Slip requirements shall not apply to mechanical lap splices.

The fourth subparagraph of the last paragraph of Section 52-1.08C, "Mechanical Butt Splices," of the Standard Specifications is amended to read:

4. A statement that the splicing systems and materials used in accordance with the manufacturer's procedures will develop not less than the minimum tensile strengths, based on the nominal bar area, of 430 MPa for ASTM Designation: A 615/A 615M, Grade 300 bars and 550 MPa for ASTM Designations: A 615/A 615M, Grade 420 and A 706/A 706M bars, and will comply with the total slip requirements and the other requirements in these specifications.

Section 52-1.08C(5), "Sleeve-Extruded Mechanical Butt Splices," of the Standard Specifications is amended to read:

**52-1.08C(5) Sleeve-Lockshear Bolt Mechanical Butt Splices.**—The sleeve-lockshear bolt type of mechanical butt splices shall consist of a seamless steel sleeve, 2 serrated steel strips welded to the inside of the sleeve, center hole with centering pin, and bolts that are tightened until the bolt heads shear off and the bolt ends are embedded in the reinforcing bars.

**52-1.08C(6) Two-Part Sleeve-Forged Bar Mechanical Butt Splices.**—The two-part sleeve-forged bar type of mechanical butt splices shall consist of a shop machined two-part threaded steel sleeve that interlocks 2 hot-forged reinforcing bars ends. The forged bar ends may be either shop produced or field produced.

**52-1.08C(7) Two-Part Sleeve-Friction Bar Mechanical Butt Splices.**—The two-part sleeve-friction bar type of mechanical butt splices shall consist of a shop machined two-part threaded steel sleeve whose ends are friction welded, in the shop, to the reinforcing bars ends.

The fourth paragraph of Section 52-1.08D, "Qualification of Welding and Mechanical Splicing," of the Standard Specifications is amended to read:

Each operator qualification test for mechanical splices shall consist of 2 sample splices. Each mechanical splice procedure test shall consist of 2 sample splices.

For sleeve-filler, sleeve-threaded, sleeve-lockshear bolt and two-part sleeve friction bar mechanical butt splices, all sample splices shall be made on the largest reinforcing bar size to be spliced by the procedure or operator being tested except that No. 43 bars may be substituted for No. 57 bars.

For sleeve-swaged and two-part sleeve-forged mechanical butt splices, and mechanical lap splices, all sample splices shall be made on the largest reinforcing bar size of each deformation pattern to be spliced by the procedure or operator being tested. When joining new reinforcing bars to existing reinforcement, the qualification test sample bars shall be made using only the deformation patterns of the new reinforcement to be joined.

Section 52-1.08E, "Job Control Tests," of the Standard Specifications is amended to read:

**52-1.08E Job Control Tests.**—When mechanical butt splices, shop produced complete joint penetration butt welded splices, or shop produced resistance butt welded splices are used, the Contractor shall furnish job control tests from a local qualified testing laboratory. A job control test shall consist of the fabrication, under conditions used to produce the splice, and the physical testing of 3 sample splices for each lot of 150 splices.

A lot of mechanical butt splices is defined as 150, or fraction thereof, of the same type of mechanical butt splices used for each combination of bar size and bar deformation pattern that is used in the work.

A lot of shop produced complete joint penetration butt welded splices, or shop produced resistance butt welded splices, is defined as 150, or fraction thereof, of the same type of welds used for each combination of bar size and bar deformation pattern that is used in the work.

When joining new reinforcing bars to existing reinforcement, the job control test shall be made using only the deformation patterns of the new reinforcement to be joined.

A sample splice shall consist of a splice made at the job site to connect two 760 mm, or longer, bars using the same splice materials, position, location, and equipment, and following the same procedures as are being used to make splices in the work. Shorter sample splice bars may be used if approved by the Engineer.

Sample splices shall be made and tested in the presence of the Engineer or the Engineer's authorized representative.

Sample splices shall be suitably identified with weatherproof markings prior to shipment to the testing laboratory.

For sleeve-threaded mechanical butt splices, the reinforcing bars to be used for job control tests shall be fabricated on a random basis during the cutting of threads on the reinforcing bars of each lot and shipped to the job site with the material they represent.

For shop produced complete joint penetration butt welds, shop produced resistance butt welded splices and all types of mechanical butt splices, except the sleeve-threaded type, the Engineer will designate when samples for job control tests are to be fabricated, and will determine the limits of the lot represented by each job control test.

Should the average of the results of tests made on the 3 sample splices or should more than one sample splice in any job control test fail to meet the requirements for splices, all splices represented by that test will be rejected in accordance with the provisions in Section 6-1.04, "Defective Materials," of the Standard Specifications. This rejection shall prevail unless the Contractor, at the Contractor's expense, obtains and submits evidence, of a type acceptable to the Engineer, that the strength and quality of the splices in the work are acceptable.

Section 52-1.08F, "Nondestructive Splice Tests," of the Standard Specifications is amended to read:

**52-1.08F Nondestructive Splice Tests.**—All required radiographic examinations of complete joint penetration butt welded splices shall be performed by the Contractor in accordance with the requirements of AWS D 1.4 and these specifications.

Prior to radiographic examination, welds shall meet the requirements of Section 4.4, "Quality of Welds," of AWS D1.4-92.

Radiographic examinations shall be performed on 25 percent of all complete joint penetration butt welded splices from a production lot. The size of a production lot will be a maximum of 100 splices. The Engineer will select the splices which will compose the production lot and also the splices within each production lot to be radiographically examined.

Should more than 12 percent of the splices which have been radiographically examined in any production lot be defective, an additional 25 percent of the splices, selected by the Engineer from the same production lot, shall be radiographically examined. Should more than 12 percent of the cumulative total of splices tested from the same production lot be defective, all remaining splices in the lot shall be radiographically examined.

Additional radiographic examinations performed due to the identification of defective splices shall be at the Contractor's expense.

All defects shall be repaired in accordance with the requirements of AWS D1.4.

Radiographic examinations will not be required for either shop produced complete joint penetration butt welds or shop produced resistance butt welded splices of No. 25 or smaller bars used as spiral or hoop reinforcement.

In addition to radiographic examinations performed by the Contractor, any mechanical or welded splice may be subject to inspection or nondestructive testing by the Engineer. The Contractor shall provide sufficient access facilities in the shop and at the jobsite to permit the Engineer or his agent to perform the inspection or testing.

The Contractor shall notify the Engineer in writing 48 hours prior to performing any radiographic examinations.

The radiographic procedure used shall conform to the requirements of ASME Boiler and Pressure Vessels Code, Section V, Article 2 and the following:

Two exposures shall be made for each complete joint penetration butt welded splice. For each of the two exposures, the radiation source shall be centered on each bar to be radiographed. The first exposure shall be made with the radiation source placed at zero degrees from the top of the weld and perpendicular to the weld root and identified with a station mark of "0." When obstructions prevent a zero degree placement of the radiation source for the first exposure, and when approved in writing by the Engineer, the source may be rotated, around the centerline of the reinforcing bar, a maximum of 25 degrees. The second exposure shall be at 90 degrees to the "0" station mark and shall be identified with a station mark of "90."

For field produced complete joint penetration butt welds, no more than one weld shall be radiographed during one exposure. For shop produced complete joint penetration butt welds, if more than one weld is to be radiographed during one exposure, the angle between the root line of each weld and the direction to the radiation source shall be not less than 65 degrees.

Radiographs shall be made by either X-ray or gamma ray. Radiographs made by X-ray or gamma rays shall have densities of not less than 2.3 nor more than 3.5 in the area of interest. A tolerance of 0.05 in density is allowed for densitometer variations. Gamma rays shall be from the iridium 192 isotope and the emitting specimen shall not exceed 4.45 mm in the greatest diagonal dimension.

The radiographic film shall be placed perpendicular to the radiation source at all times; parallel to the root line of the weld unless source placement determines that the film must be turned; and as close to the root of the weld as possible.

The minimum source to film distance shall be maintained so as to insure that all radiographs maintain a maximum geometric unsharpness of 0.020 at all times, regardless of the size of the reinforcing bars.

Penetrameters shall be placed on the source side of the bar and perpendicular to the radiation source at all times. One penetrometer shall be placed in the center of each bar to be radiographed, perpendicular to the weld root, and adjacent to the weld. Penetrometer images shall not appear in the weld area.

When radiography of more than one weld is being performed per exposure, each exposure shall have a minimum of one penetrometer per bar, or 3 penetrameters per exposure. When 3 penetrameters per exposure are used, one penetrometer shall be placed on each of the 2 outermost bars of the exposure, and the remaining penetrometer shall be placed on a centrally located bar.

An allowable weld buildup of 4 mm may be added to the total material thickness when determining the proper penetrometer selection. No image quality indicator equivalency will be accepted. Wire penetrameters or penetrometer blocks shall not be used.

Penetrameters shall be sufficiently shimmed using a radiographically identical material. Penetrometer image densities shall be a minimum of 2.0 and a maximum of 3.6.

All radiographic film shall be Class 1, regardless of the size of reinforcing bars.

Radiographs shall be free of film artifacts and processing defects, including, but not limited to, streaks, scratches, pressure marks, or marks made for the purpose of identifying film or welding indications.

Each splice shall be clearly identified on each radiograph and the radiograph identification and marking system shall be established between the Contractor and the Engineer before radiographic inspection begins. Film shall be identified by lead numbers only; etching, flashing, or writing in identifications of any type will not be permitted. Each piece of film identification information shall be legible and shall include, as a minimum, the following information: Contractor's name, date, name of nondestructive testing firm, initials of radiographer, contract number, part number, and weld number. The letter "R" and repair number shall be placed directly after the weld number to designate a radiograph of a repaired weld.

Radiographic film shall be developed within a time range of one minute less to one minute more than the film manufacturer's recommended maximum development time. Sight development will not be allowed.

Processing chemistry shall be done with a consistent mixture and quality, and processing rinses and tanks shall be clean to ensure proper results. Records of all developing processes and any chemical changes to the developing processes shall be kept and furnished to the Engineer upon request. The Engineer may request, at any time, that a sheet of unexposed film be processed in the presence of the Engineer to verify processing chemical and rinse quality.

All radiographs shall be interpreted and graded by a Level II or Level III technician who is qualified in accordance with the American Society for Nondestructive Testing's Recommended Practice No. SNT-TC-1A. The results of these interpretations shall be recorded on a signed certification and a copy kept with the film packet.

Technique sheets prepared in accordance with ASME Boiler and Pressure Vessels Code, Section V, Article 2 Section T-291 shall also contain the developer temperature, developing time, fixing duration and all rinse times.

All radiographic envelopes shall have clearly written on the outside of the envelope the following information: name of the Contractor's Quality Control Manager (QCM), name of the nondestructive testing firm, name of the radiographer, date, contract number, complete part description, and all included weld numbers or a report number, as detailed in the Contractor's Quality Control Plan (QCP). In addition, all innerleaves shall have clearly written on them the part description and all included weld numbers, as detailed in the Contractor's QCP.

The third paragraph of Section 52-1.10, "Measurement," of the Standard Specifications is amended to read:

The lap of bars for all splices, including splices shown on the plans where a continuous bar is used, will be measured for payment. The mass calculated shall be based upon the following table:

**BAR REINFORCING STEEL**

Deformed Bar Designation Number	Mass Kilogram Per Meter	Nominal Diameter, Millimeters
10	0.560	9.5
13	0.994	12.7
16	1.552	15.9
19	2.235	19.1
22	3.042	22.2
25	3.973	25.4
29	5.060	28.7
32	6.404	32.3
36	7.907	35.8
43	11.38	43.0
57	20.24	57.3

Note: Bar numbers approximate the number of millimeters of the nominal diameter of the bars. The nominal diameter of a deformed bar is equivalent to the diameter of a plain round bar having the same mass per meter as the deformed bar.

**EPOXY-COATED PREFABRICATED REINFORCEMENT**

Bar reinforcement to be epoxy-coated shall conform to the ASTM Designation and grade required or permitted by Section 52-1.02A, "Bar Reinforcement," for the location or type of structure involved. The coated bar reinforcement shall conform to the requirements in ASTM Designation: A 934/A 934M except as provided herein.

Wire reinforcement and welded wire fabric to be epoxy-coated shall conform to the ASTM Designation and grade required or permitted by Section 52-1.02D, "Reinforcing Wire and Plain Bars," for the location or type of structure involved. The coated wire reinforcement and welded wire fabric shall conform to the provisions for Class A, Type 2 coating of ASTM Designation: A 884/A 884M except as provided herein.

Appendices X1 and X2, "Guidelines For Job-Site Practices," of ASTM Designation: A 884/A 884M and A 934/A 934M, respectively, shall apply except as provided herein. The term "shall" shall replace the term "should" in these appendices. Section X1.2 of Appendix X1 and Section X2.2 of Appendix X2 shall not apply.

All coatings shall be purple or gray in color.

Except for field welding of butt splices, all welding of reinforcement shall be complete prior to epoxy coating the reinforcement.

Prior to epoxy coating, all resistance butt welds shall have the weld flash removed to produce a smooth profile free of any sharp edges that would prevent proper coating of the bar. The flash shall be removed such that the ultimate tensile strength and elongation properties of the bar are not reduced, and the outside radius of the flash, at any point along the circumference of the bar, is 1) not less than the nominal radius of the bar, nor 2) greater than 5 mm beyond the nominal radius of the bar.

A proposed weld flash removal process shall be submitted to and approved by the Engineer in writing, prior to performing any removal work. The submittal shall demonstrate that the proposed flash removal process produces a smooth profile that can be successfully epoxy-coated in conformance with the requirements specified herein.

Bending of epoxy-coated reinforcement after the coating has been applied will not be allowed.

When any portion of a reinforcing bar or wire requires epoxy coating, the entire bar or wire shall be coated; except, when the bar or wire is spliced outside of the limits of epoxy coating shown on the plans, epoxy coating will not be required on the portion of bar or wire beyond the splice.

Within areas where epoxy-coated reinforcement is required, tie wire and bar chairs or other metallic devices used to secure or support the reinforcement shall be plastic-coated or epoxy-coated to prevent corrosion of the devices or damage to the coated reinforcement.

Prior to coating, the Contractor shall furnish to the Transportation Laboratory a representative 110 g sample from each batch of epoxy coating material to be used. Each sample shall be packaged in an airtight container identified with the manufacturer's name and batch number.

Two 700-mm long samples of coated bar or wire reinforcement from each size and from each load shipped to the jobsite shall be furnished to the Engineer for testing. Two 700-mm x 700-mm sample sheets of coated welded wire fabric from each

size and from each load shipped to the jobsite shall be furnished to the Engineer for testing. These samples shall be representative of the material furnished. These samples, as well as any additional random samples taken by the Engineer, may be tested for specification compliance. Additional sampling, and all tests performed by the Engineer, may be performed at any location deemed appropriate by the Engineer. Failure of any sample to meet the requirements of the specifications will be cause for rejection.

If any bar tested for coating thickness or for adhesion of coating fails to meet the requirements for coated bars in Section 9 of ASTM Designation: A 934/A 934M, 2 retests on random samples taken from bars represented by the failed test will be conducted for each failed test. If the results of both retests meet the specified requirements, the coated bars represented by the samples may be certified as meeting the test requirements.

If any wire reinforcement and welded wire fabric tested for coating thickness or for flexibility fails to meet the requirements for coated wire in Section 8 of ASTM Designation: A 884/A 884M, 2 retests on random samples taken from wire represented by the failed test will be conducted for each failed test. If the results of both retests meet the specified requirements, the coated wire represented by the samples may be certified as meeting the test requirements.

Epoxy-coated reinforcement shall be covered with an opaque polyethylene sheeting or other suitable protective material to protect the reinforcement from exposure to sunlight, salt spray and weather. For stacked bundles, the protective covering shall be draped around the perimeter of the stack. The covering shall be adequately secured; however, it should allow for air circulation around the reinforcement to prevent condensation under the covering. Epoxy-coated reinforcement shall not be stored within 300 meters of ocean or tidal water for more than 2 months.

All visible damage to coatings caused by shipping, handling or installation shall be repaired as required for repairing coating damaged prior to shipment as specified in ASTM Designation: A 934/A 934M for bar reinforcement or ASTM Designation: A 884/A 884M for wire reinforcement and welded wire fabric. When the extent of coating damage prior to repair exceeds 2 percent of the bar or wire surface area in any 300-mm length, repair of the bar or wire will not be allowed and the coated bar or wire will be rejected.

The patching material and process shall be suitable for field application. The patching material shall be prequalified as required for the coating material and shall be either identified on the container as a material compatible with the reinforcement coating, or shall be accompanied by a Certificate of Compliance certifying that the material is compatible with the reinforcement coating. Damaged areas shall be patched in conformance with the patching material manufacturer's recommendations.

Except for lap splices, all splices for epoxy-coated reinforcement shall be coated with a corrosion protection covering that is on the Department's list of approved products. The covering shall be installed in conformance with the manufacturer's recommendations and as directed by the Engineer. The list is available from the Transportation Laboratory.

A Certificate of Compliance conforming to the provisions in Section 6-1.07, "Certificates of Compliance," shall be furnished for each shipment of epoxy-coated bar or wire reinforcement or welded wire fabric certifying that the coated bars or wire or fabric conform to the requirements in ASTM Designation: A 934/A 934M for bars or A 884/A 884M for wire and fabric and Section 52-1.02B, "Epoxy-coated Bar Reinforcement." This Certificate of Compliance shall include all the certifications specified in ASTM Designation: A 934/A 934M for bars or ASTM Designation: A 884/A 884M for wire and welded wire fabric, and a statement that the coating material has been prequalified by acceptance testing performed by the Valley Forge Laboratories, Inc., Devon, Pennsylvania.

Any portion of bar or wire reinforcement or welded wire fabric extending beyond the limits for epoxy coated reinforcement shown on the plans will be measured and paid for as bar reinforcing steel (bridge).

**ENGINEER'S ESTIMATE****04-045014**

Item	Item Code	Item	Unit of Measure	Estimated Quantity	Unit Price	Item Total
		<b>ALTERNATIVE 1</b>				
80	047791	FURNISH 1065 MM PILING	M	38 070		
81 (S)	047792	DRIVE 1065 MM PILE	EA	1233		
82	047793	FURNISH ANCHOR PILING (PP 610 X 12.5)	M	296		
83 (S)	047794	DRIVE ANCHOR PILE (PP 610 X 12.5)	EA	8		
84 (F)	510053	STRUCTURAL CONCRETE, BRIDGE	M3	36 000		
85	BLANK					
86	047795	FURNISH PRECAST PRESTRESSED CONCRETE DOUBLE-T GIRDER (15M - 20M)	EA	2838		
87	047796	FURNISH PRECAST CONCRETE BENT CAP (5M - 10M)	EA	23		
88	047797	FURNISH PRECAST CONCRETE BENT CAP (15M - 20M)	EA	393		
89 (S)	512500	ERECT PRECAST PRESTRESSED CONCRETE GIRDER	EA	2838		
90 (S)	047798	ERECT PRECAST CONCRETE BENT CAP	EA	416		
91 (S)	519120	JOINT SEAL (MR 15 MM)	M	7		
92 (S)	519123	JOINT SEAL (TYPE B - MR 50 MM)	M	1728		
93 (S-F)	520110	BAR REINFORCING STEEL (EPOXY COATED) (BRIDGE)	KG	6 226 000		
94 (S-F)	750496	MISCELLANEOUS METAL (RESTRAINER - PIPE TYPE)	KG	143 400		
		<b>ALTERNATIVE 2</b>				
95	047800	FURNISH 1065 MM PILING	M	29 519		
96 (S)	047801	DRIVE 1065 MM PILE	EA	826		

## ENGINEER'S ESTIMATE

04-045014

Item	Item Code	Item	Unit of Measure	Estimated Quantity	Unit Price	Item Total
97	047802	FURNISH ANCHOR PILING (PP 610 X 12.5)	M	296		
98 (S)	047803	DRIVE ANCHOR PILE (PP 610 X 12.5)	EA	8		
99 (F)	510053	STRUCTURAL CONCRETE, BRIDGE	M3	35 520		
100 (F)	511106	DRILL AND BOND DOWEL	M	10		
101	047804	FURNISH PRECAST PRESTRESSED CONCRETE BULB-T GIRDER (15M - 20M)	EA	3		
102	047805	FURNISH PRECAST PRESTRESSED CONCRETE BULB-T GIRDER (25M - 30M)	EA	2166		
103	047806	FURNISH PRECAST PRESTRESSED CONCRETE DECK PANEL	EA	1893		
104	047807	FURNISH PRECAST CONCRETE BENT CAP (5M - 10M)	EA	2		
105	047808	FURNISH PRECAST CONCRETE BENT CAP (15M - 20M)	EA	262		
106	047809	FURNISH PRECAST CONCRETE BENT CAP (10M - 15M)	EA	14		
107 (S)	512500	ERECT PRECAST PRESTRESSED CONCRETE GIRDER	EA	2169		
108 (S)	047810	ERECT PRECAST PRESTRESSED CONCRETE DECK PANEL	EA	1893		
109 (S)	047811	ERECT PRECAST CONCRETE BENT CAP	EA	278		
110 (S)	519120	JOINT SEAL (MR 15 MM)	M	7		
111 (S)	519123	JOINT SEAL (TYPE B - MR 50 MM)	M	1579		
112 (S-F)	520110	BAR REINFORCING STEEL (EPOXY COATED) (BRIDGE)	KG	5 370 000		
113 (S-F)	750496	MISCELLANEOUS METAL (RESTRAINER - PIPE TYPE)	KG	117 100		
		<b>ALTERNATIVE 3</b>				
114	047812	FURNISH PRECAST PRESTRESSED CONCRETE PILING (610 MM)	M	123 522		

## ENGINEER'S ESTIMATE

04-045014

Item	Item Code	Item	Unit of Measure	Estimated Quantity	Unit Price	Item Total
115 (S)	047813	DRIVE PRECAST PRESTRESSED CONCRETE PILE (610 MM)	EA	4900		
116	047814	FURNISH ANCHOR PILING (PP 355.5 X 11.125)	M	277		
117 (S)	047815	DRIVE ANCHOR PILE (PP 355.5 X 11.125)	EA	8		
118 (F)	510053	STRUCTURAL CONCRETE, BRIDGE	M3	22 090		
119 (F)	511106	DRILL AND BOND DOWEL	M	10		
120	512350	FURNISH PRECAST PRESTRESSED CONCRETE SLAB	EA	5676		
121	047816	FURNISH PRECAST CONCRETE BENT CAP (5M - 10M)	EA	1617		
122 (S)	047817	ERECT PRECAST PRESTRESSED CONCRETE SLAB	EA	5676		
123 (S)	047818	ERECT PRECAST CONCRETE BENT CAP	EA	1617		
124 (S)	519121	JOINT SEAL (TYPE B - MR 30 MM)	M	25		
125 (S)	519123	JOINT SEAL (TYPE B - MR 50 MM)	M	1720		
126 (S-F)	520110	BAR REINFORCING STEEL (EPOXY COATED) (BRIDGE)	KG	2 295 000		
127	999990	MOBILIZATION	LS	LUMP SUM	LUMP SUM	

**TOTAL BID:** \_\_\_\_\_

04-045014

**CONTRACTOR'S INQUIRY RESPONSE**  
October 15, 1999

The responses to bidder' inquiries, unless incorporated into a formal addenda to the contract, are not a part of the contract and are provided for the bidder's convenience only. In some instances, the question and answer may represent a summary of the matters discussed rather than a word-for-word recitation. The responses may be considered along with all other information furnished to prospective bidders for the purpose of bidding on the project. The availability or use of information provided in the responses to contractors' inquiries is not to be construed in any way as a waiver of the provisions of Section 2-1.03 of the Standard Specifications or any other provision of the contract, the plans, Standard Specifications or Special Provisions, nor to excuse the contractor from full compliance with those contract requirements. Bidders are cautioned that subsequent responses or contract addenda may affect or vary a response previously given.

**CALTRANS TOLL BRIDGE RETROFIT PROGRAM ADDRESS**

The Caltrans District 4 Office is located at 111 Grand Avenue, Oakland, Ca 94612. The mailing address is P.O. Box 23660, Oakland, Ca 94623-0660. The Duty Senior telephone number is (510) 286-5209, and the fax number for Contractor's inquiries submittals is (510) 286-5171

1. **I am not able to make contact with anyone at the Plans and Bid Documents 916-654-4490. I would like to obtain a copy of the Permits and Licenses obtained by Caltrans from the US Coast Guard and the San Francisco Bay Conservation and Development Commission (BCDC) as referenced in the Specs 5-1.32. Would be able to e-mail or fax me a copy of these permits.**

Copies of these permits can be obtained at the Department of Transportation, Plans and Bid Documents, Room 0200, Transportation Building, 1120 N Street, P.O. Box 942874, Sacramento, California 94274-0001, Telephone No. (916) 654-4490, or may be seen at Toll Bridge Program Duty Senior's Desk, 111 Grand Avenue, Oakland, California 94612-3717. As a courtesy A copy of BCDC Permit and USCG Permit may be obtained from the office of the Toll Bridge Duty Senior at 10 cents per sheet, or by presenting receipts of \$3.90 and \$0.90 from District 4, Cashier's Office respectively to the Duty Senior for a copy of each complete document. Please call the Toll Bridge Program Duty Senior, Telephone No. (510) 286-5549, to reserve copies at least 24 hours in advance.

2. **Please reserve 4 spaces for the September 9, 1999 site tour of the San Mateo Bridge Widening.**  
Done.
3. **Please reserve a place for one representative from xxxxxxxx xxxxxx on the September 9 site visit. Will the itinerary be the same as the one posted for the September 2 site visit?**  
Done. The itinerary for all site visits will be the same.
4. **Please be informed that undersigned like to make reservations for the site visit on 09-09-1999.**  
Done.
5. **We would like to make a reservation to attend the site visit on September 9, 1999.**  
Done.
6. **As discussed with you yesterday we would like to change our requested site visit date for the San Mateo Bridge Widening to Wednesday (9/1/99). Please confirm.**

The dates available for site visits have been posted.

**7. Where can I get a copy of the U.S. Coast Guard Checklist referenced in Section 5-1.15?**

Copies of the Checklist may be obtained at the Department of Transportation, Plans and Bid Documents, Room 0200, Transportation Building, 1120 N Street, P.O. Box 942874, Sacramento, California 94274-0001, Telephone No. (916) 654-4490, and are available for inspection at the Toll Bridge Program Duty Senior at District 04 Office, 111 Grand Avenue, Oakland, California 94612, telephone number (510) 286-5549, duty\_senior\_tollbridge\_district04@dot.ca.gov. As a courtesy to the bidders for project a copy of the U.S. Coast Guard checklist for San Mateo-Hayward Bridge Trestle Widening Project may be obtained from the office of the Toll Bridge Duty Senior at 10 cents per sheet. Presenting a receipt of \$0.40 from District 4, Cashier's Office to the Toll Bridge Duty Senior may pick up the document. Please call the Office of the Toll Bridge Program Duty Senior, to reserve copies at least 24 hours in advance.

**8. Where can I get a copy of the "Materials Information Handouts" as referenced in Section 5-1.24?**

Caltrans provides all bidders a copy of the "Material Information Handouts." Non-bidder plan holders can request a copy of the "Material Information Handouts," by calling (916) 654-4490. If a person does not answer, please follow the directions to leave a message. A Caltrans representative will call you back. The same information is available for inspection and review at the Office of the Toll Bridge Program Duty Senior at District 04, 111 Grand Avenue, Oakland, California 94612. Please call (510) 286-5549 to make an appointment.

**9. I would like to have a copy of the CSWPPP. Are they available?**

Yes, they are available. Copies of the CSWPPP are available for review at the Office of the Toll Bridge Program Duty Senior at District 04, 111 Grand Avenue, Oakland, California 94612, and telephone number (510) 286-5549, duty\_senior\_tollbridge\_district04@dot.ca.gov. As a courtesy to the bidders for the project, a copy of the CSWPPP for San Mateo-Hayward Bridge Trestle Widening Project may be obtained from the office of the Toll Bridge Duty Senior at 10 cents per sheet. By presenting a receipt of \$10.00 from District 4, Cashier's Office to the Toll Bridge Duty Senior, pick up a personnel copy of the document. Please call the Office of the Toll Bridge Program Duty Senior, to reserve copies at least 24 hours in advance.

**10. Where can I get a copy of the "Foundation Recommendations and the "Information Handout" referenced in Section 10-1.33?**

Foundation Recommendations are included within the contents of the "Material Information Handouts." Caltrans provides all bidders a copy of the "Material Information Handouts." Non-bidder plan holders can request a copy of the "Material Information Handouts," by calling (916) 654-4490. If a person does not answer, please follow the directions to leave a message. A Caltrans representative will call you back. The same information is available for inspection and review at the Office of the Toll Bridge Program Duty Senior at District 04, 111 Grand Avenue, Oakland, California 94612. Please call (510) 286-5549 to make an appointment.

**11. I have been unable to reach a live voice by way of calling 916/654-4490 and am hoping you can help me.**

**Morrison Knudsen is interested in bidding on the San Mateo Bridge widening job, contract 04-045014. In the job's specifications, there are references to a permit, a checklist, and test results. Is there a listing that includes these items as well as other items we should obtain? If so, we would like to obtain a copy.**

**If not, we request a copy of the following items:**

- 1. San Francisco Bay Conservation Development Commission (BCDC) - - permit issued by them covering work to be performed under this contract**
- 2. U.S. Coast Guard, 12th District - - U.S. Coast Guard Checklist**
- 3. "Sediment Sampling Analysis Report - San Mateo Hayward Trestle Widening"**

Copies of BCDC permit can be obtained at the Department of Transportation, Plans and Bid Documents, Room 0200, Transportation Building, 1120 N Street, P.O. Box 942874, Sacramento, California 94274-0001, Telephone No. (916) 654-4490, or may be seen at Toll Bridge Program Duty Senior's Desk, 111 Grand Avenue, Oakland, California 94612-3717.

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ADDED PER ADDENDUM NO. 4 DATED OCTOBER 21, 1999

Copies of the "Sediment Sampling Analysis Report - San Mateo Hayward Trestle Widening," are available for review at the Office of the Toll Bridge Program Duty Senior at District 04, 111 Grand Avenue, Oakland, California 94612, telephone number (510) 286-5549, duty\_senior\_tollbridge\_district04@dot.ca.gov. As a courtesy to the bidders for the project a copy of the CSWPPP for San Mateo-Hayward Bridge Trestle Widening Project may be obtained from the office of the Toll Bridge Duty Senior at 10 cents per sheet. By presenting a receipt of \$9.60 from District 4, Cashier's Office to the Toll Bridge Duty Senior, pick up a personnel copy of the document. Please call the Office of the Toll Bridge Program Duty Senior, to reserve copies at least 24 hours in advance.

12. **My name is Brad Kaufman and I am with Kiewit Pacific Co. We are bidding the San Mateo Bridge Widening Project. I would like to arrange for a site visit to the San Mateo Bridge Widening Job. I would like to set it up for Friday 8/27/99 at 9:00am. We will have about 6 people.**

The dates available for site visits have been posted. Reservations were confirmed for 9/2/1999.

13. **We will be bidding on the above-referenced project (San Mateo-Hayward Bridge Widen, Contract No 04-045014) as a prime contractor in Joint Venture with another company, and both companies are prequalified to bid on the project. Please answer the following questions in this regard:**

- 1.) **Do we need to receive approval to bid as a Joint Venture?**
- 2.) **Does the Bid Bond need to be issued in the name of the Joint Venture?**

**Another question: page 89 of Notice to Contractor, Paragraph 10-1.14 - Transportation for Engineer - indicates insurance requirements as \$50,000,000. Is this amount correct?**

No, you don't need to receive approval to bid as a Joint Venture.

Yes, it should be. Because the name of the Joint Venture is the entity that Caltrans is dealing with.

Yes, it is.

14. **Can we have copies of these reports sent by Fed Ex Acct.: xxxxxxxx-x to us?**

1.) **The complete report entitled "Sediment Sampling and Analysis Report - San Mateo-Hayward Trestle Widening Report."**

2.) **The Conceptual Storm Water Pollution Prevention Plan, hereafter referred to as the "CSWPPP."**

**Also, are there any x-sections available?**

Copies of the "Sediment Sampling Analysis Report - San Mateo Hayward Trestle Widening," are available for review at the Office of the Toll Bridge Program Duty Senior at District 04, 111 Grand Avenue, Oakland, California 94612, telephone number (510) 286-5549, duty\_senior\_tollbridge\_district04@dot.ca.gov. Copies of the report may be obtained from the office of the Toll Bridge Duty Senior at 10 cents per sheet. By presenting a receipt of \$9.60 from District 4, Cashier's Office to the Toll Bridge Duty Senior, pick up a copy of the document. Please call the Office of the Toll Bridge Program Duty Senior, to reserve copies at least 24 hours in advance.

Copies of the CSWPPP are available for review at the Office of the Toll Bridge Program Duty Senior at District 04, 111 Grand Avenue, Oakland, California 94612, and telephone number (510) 286-5549, duty\_senior\_tollbridge\_district04@dot.ca.gov. Copies of the report may be obtained from the office of the Toll Bridge Duty Senior at 10 cents per sheet. By presenting a receipt of \$10.00 from District 4, Cashier's Office to the Toll Bridge Duty Senior, pick up a copy of the document. Please call the Office of the Toll Bridge Program Duty Senior, to reserve copies at least 24 hours in advance.

Yes, cross sections are available. Copies of the cross-sections - San Mateo Hayward Trestle Widening," are available for review at the Office of the Toll Bridge Program Duty Senior at District 04, 111 Grand Avenue, Oakland, California 94612, telephone number (510) 286-5549, duty\_senior\_tollbridge\_district04@dot.ca.gov. Copies of the cross-sections may be obtained from the office of the Toll Bridge Duty Senior at 10 cents per sheet. By presenting a receipt from District 4, Cashier's Office to the Toll Bridge Duty Senior, pick up copies of the cross-sections. Please call the Office of the Toll Bridge Program Duty Senior, to reserve copies at least 24 hours in advance.

**15. The following are requested.**

- 1.) Please have as-built plans of the existing bridge available for view at the district office by September 8.**
- 2.) Please make the cross sections available at the district office by September 8.**

Copies of the as-built plans for the existing bridge are available for review at the Office of the Toll Bridge Program Duty Senior at District 04, 111 Grand Avenue, Oakland, California 94612, and telephone number (510) 286-5549, duty\_senior\_tollbridge\_district04@dot.ca.gov. Please call the Office of the Toll Bridge Program Duty Senior, to reserve copies at least 24 hours in advance.

Copies of the cross sections are available for review at the Office of the Toll Bridge Program Duty Senior at District 04, 111 Grand Avenue, Oakland, California 94612, and telephone number (510) 286-5549, duty\_senior\_tollbridge\_district04@dot.ca.gov. Please call the Office of the Toll Bridge Program Duty Senior, to reserve copies at least 24 hours in advance.

**16. Ref. Special Provisions, Pages 1 and 9 - Notice to Contractors. At the bottom of Page 1 it is stated that "The bidder shall submit prices for all of the work of Items 1 through 79, plus prices for all of the work of the items included in the alternative selected by the bidder." The Copy of Engineers Estimate on Page 9, as well as the proposal form, shows Item 127 - Mobilization as part of Alternative 3. Shouldn't a mobilization item be included for each of the alternatives, or in the listing of items common to all alternatives?**

Correct. Item 127 "Mobilization" is common to all the alternatives.

**17. Four very large projects in the toll bridge system are out for bid at this time. Additionally, this bid will require extra effort and time to analyze three alternates. For these reasons we request a two-week extension of the bid date.**

The bid date for the project will not be extended.

**18. Can the contractor build a pile founded temporary work trestle to access the work?**

No. BCDC permit 20-98, however, allows the contractor to " Construct and use a temporary staging platform at the west end of the project just north of the proposed trestle. Approximately 6,000 square feet of pile- supported fill and 350 square feet of solid fill will be permitted. Transport barges may be used to bring materials and equipment to the project site for all three design variations."

**19. Can the Contractor use two different alternatives, one for each end of the bridge?**

No. See Section 10-1.01, "Alternative Construction," of the special provisions. It states that "The Contractor shall construct ... in accordance with one of the alternative designs shown on the plans...."

**20. Plan sheet 148 of 214, Section A-A and Section B-B. Will the Contractor be allowed to eliminate the void for the 610 mm piles, i.e., cast the pile solid?**

No.

**21. Bid Schedule, Item 33, Bridge Removal (Portion): Is the existing concrete barrier to be removed included for payment in this item?**

Yes, the barrier removal shown on the bridge plans is included in the contract item, bridge removal (portion).

**22. Are the driving logs from the first trestle available for review and if so where?**

There are no pile driving records available.

**23. Is the epoxy coated reinforcement in the precast members paid as part of the precast concrete member or bar reinforcing steel item?**

Reinforcing steel is included in the price paid for furnishing the precast concrete member. Refer to Section 51-1.23 "Payment" of the Standard Specifications.

24. **Please have pile driving records for the existing bridge available for view at the district office by September 8.**

There are no pile driving records available.

25. **There appears to be a terminology discrepancy, is the term "mean lower low water" and the term "mean low water" one in the same? If not, please explain.**

The terms are used interchangeably and mean the same.

26. **There is load testing for this contract, will specified tips change? What type of testing will be done on the piles?**

Load testing consists of static load testing, dynamic monitoring and bearing acceptance criteria. The primary purpose is to validate the design criteria. Specified tip elevations may change.

27. **On sheet 212 of 347, how can the No. 19 bars be continuous as shown from the details on the plans? The precast bent caps on each side of the pile show the coupler as embedded into the cap with the bar running through the cap.**

Section C-C details a #19 x 460 bar to be coupled to the hooked end.

28. **Please refer to the welding specification section 49-5.01 item 5. The question is that when I refer to AWS D1.1 I cannot determine how much if any of a shop installed weld needs the NDT inspection. Would you please tell myself as well as other bidders and pipe suppliers because it has a dramatic affect on the pipe price.**

**Please refer to drawing sheet 259 of 347. Note 2 states that the prestressing panels shall be placed perpendicular to the girders. If that is the case, are the 1893 panels 27 meter wide and 2 meters in length and 81mm deep? If that is the case, how does a person pick the panel?**

**Are the driving logs from the first trestle available for review and if so where?**

**Has anyone sounded the ground (mudline) along the centerline of the new trestle, if so how do I get a copy of the results.**

Additional provisions are described under the subsection "Steel Pipe Piling".

Attention is directed to Section 10-1.38, "Precast Prestressed Concrete Panel," of the special provisions regarding alternative panel widths.

There are no pile driving records available.

Caltrans is not aware of any sounding of the ground.

29. **On page 238 of the plans, Section B-B shows a precast U bent cap with #19 ties at 150mm on center across the top of the "U". On page 239, Section B-B shows #32 bars placed below the ties. The only way to get these bars installed is to have the precaster place them before casting. Did the designer have some other method in mind? Are these #32 bars paid for as part of the precast beam instead of as Bar Reinforcement?**

The method of installing the bars is determined by the Contractor.

The #32 are measured and paid for as bar reinforcing steel (bridge).

30. **Special Provisions, page 123, Wave Equation. We are not clear as to the use of "bearing acceptance criteria curves"? It is our understanding that the pile tests would either confirm, or cause you to revise, the specified tip elevations shown on Drawing Sheet No. 3 of 214, titled Pile Data. We would then order piles to the appropriate length found at these specified tip elevations and drive them to these same elevations. We are unclear as to whether the use of "bearing acceptance criteria curves" would change our understanding described above. Please clarify.**

Penetration and bearing analysis are in conjunction with load testing and dynamic monitoring of the test piles.

31. **Section 10-1.36 - Concrete Structures - Falsework - if a temporary trestle is utilized, will the temporary piles have to be removed completely or can they be cut off at or near the mud line?**

Temporary work trestle is not permitted.

ADDED PER ADDENDUM NO. 4 DATED OCTOBER 21, 1999

32. **Does a temporary work trestle fall under the 6 week review time as specified under the falsework Section 10-1.36?**

Temporary work trestle is not permitted.

33. **Will the Department insist that all piling placed outside of the tolerances specified in the contract be removed and replaced?**

In accordance with Standard Specifications Section 5-1.09, "Removal of Rejected and Unauthorized Work," any work done beyond the lines and grades shown on the plans or established by the Engineer shall be considered unauthorized work and will not be paid for. As unauthorized work, piling placed outside of the tolerances specified in the contract shall be remedied, or removed and replaced by the Contractor in an acceptable manner and no compensation will be allowed therefore.

If the Contractor proposes to remedy the work by proposing changes to the contract to incorporate piles placed outside of specified tolerances, the Contractor, at its expense, shall submit alternate design details for the Engineer's consideration and approval. All costs and delays associated with such a proposed remedy shall be the responsibility of the Contractor.

34. **On sheet 98 of 214 "Prestressed Double T Girder", the double tee depth in the chart is 813mm, whereas the detail shows 826mm. Which governs?**

The correct depth is 813mm. Please see addendum #1.

35. **On sheet 98 of 214 "Prestressed Double T Girder", the x value for the c.g. of the strand is too low to work, even with 15mm strand. The lowest c.g. with 15mm strand for 3100kN is 187mm and 162mm for 2300 kN. The plans indicate an x value of 140 mm. Please advice.**

Please see addendum #1.

36. **Special Provisions, page 152-Clean and Paint Steel Piling. The first paragraph states the "Limits of the steel pile surfaces to be...shop primed...shall be as shown on the plans." We have been unable to locate the limits of the coating for the steel piling on the plans. Please clarify.**

Please see addendum #1.

37. **In this Section, the language regarding relief drilling and pile jetting, again, deviate from normal accepted industry standards. Carefully controlled jetting has been used in the industry for years to achieve prescribed pile tip elevations. Loading or locating a drill on a pile that extends above the rotary table elevation of the carrier (track grade, essentially) over water, through a range of 50 to 100 feet from center of carrier rotation, is not realistic. We suggest a re-evaluation of the jetting and allow it to be effectively used to achieve the pile tip elevation prescribed.**

Please see addendum #1.

38. **The concrete special provisions appear to repeat the same sections, for example Section 90-2.01 is on both pages 56 and 64, is this correct?**

Please see addendum #1.

39. **10-1.44 "Limits of steel pile surfaces to be dry blasted and painted...shall be as shown on the plans." Plans show nothing.**

The limits of clean and paint pile has been described in addendum #1.

40. **Page 156, "After pile...final coat...at locations and limits shown on the plans." Plans show nothing.**

The limits of clean and paint pile has been described in addendum #1.

41. **RE: Bid items 80 and 95-Furnish 1065 mm Piling and bid items 93 and 112 epoxy coated reinforcement.**

As we understand it, rebar for the precast portion of the piling is paid under bid items 80 and 95, and the rebar within the void of the precast pile is paid under bid items 93 and 112. If the alternate CISS pile is used (sheet 281) the rebar is paid under bid items 93 and 112.

This is very confusing. If the alternate CISS pile is used, bid items 80 and 95 will no longer exist and bid items 93 and 112 will increase.

**Why not pay for all rebar for the piles in bid items 80 and 95?**

Please see addendum #1.

Items 80 and 95 will not be eliminated. CISS and PC/PS piles are measured and paid for as the contract items furnish 1065 mm piling and drive 1065 mm pile.

The contract item for epoxy coated bar reinforcing steel is required for the cast-in-place concrete work.

42. **On page 152 of the special provisions under "Clean and Paint Steel Piling," will painting of steel piling at offshore locations be allowed?**

At the option of the Contractor, the final coat of waterborne inorganic zinc coating may be applied at the shop.

43. **The plan sheets do not show the painting limits for steel piling. Please provide.**

The upper 10 meters of steel piling shall be cleaned and painted. Please see addendum #1.

44. **Bid Schedule: An item for mobilization only occurs in the series of bid items for alternative 3 (Bid Item 127). No provision has been made for mobilization in alternative 1 or 2, is the intent to use bid item 127 regardless of which alternate is being used?**

Please see response to Inquiry #16 and Addendum #1.

**Special Provisions, Section 10-1.38, Page 122, Installation: The specifications say the Engineer will consider jetting when "drilling through the center of piles is not feasible because the pile is so far above tip elevation", who will make the determination of whether or not drilling is feasible, and will required drilling be paid for as extra work?**

Please see addendum #1.

**Special Provisions, Section 10-1.38, Page 127, Load Test Piles: A minimum set period of 28 days is specified. Please confirm that the 28 days begins at the initial drive time.**

A 28 day set period begins after the pile is driven to the specified tip elevation. Please see addendum #1.

45. **Why is the Mobilization item #127 only in alternate 3? Where is mobilization paid for in Alternate 1 and 2?**

Please see response to Inquiry #16 and Addendum #1.

**Bid items #102 and #107 don't match. Should they?**

Please see addendum #1.

46. **Is drilling allowed for the large diameter concrete pile option?**

Please see addendum #1.

47. **For clarity we recommend that Mobilization-Item 127 be moved to the common items 1-79 so that a bidder not bidding alternate 3 also has a Mobilization item to bid.**

Please see response to Inquiry #16 and Addendum #1.

**Bid Items 84 and 99-Structural Concrete-Bridge are both fixed bid items though they contain payment for pile fill which is variable depending on the pile alternate the contractor chooses to drive. (CISS or Precast) The concrete quantity could vary 11-15%.**

The concrete fill in the PC/PS option is not included in the structural concrete, bridge quantities shown in the Engineer's Estimate for Alternative 1 and 2. Please see addendum #1.

48. **Special Provisions, Page 122, Installation (of piles) says, in part: "the Engineer will consider jetting...when drilling through the center of piles is not feasible because the pile is so far above the specified tip elevation."**

**How far above specified tip elevation would the pile have to be for this to be considered not feasible?**

Please see addendum #1.

**Special Provisions, Page 152, Clause 10-1.44 Clean and Paint Steel Piling, says in part: "Limits of the steel pile surfaces to be dry blast cleaned...shall be shown on the plans." Which plan shows these limits?**

The limits of clean and paint pile are not shown on the plans. Addendum #1 require: "The upper 10 meters of the steel pile shall be dry blast cleaned and shop primed with organic zinc coating."

49. **What is the extent of the pile coating?**

Limits of clean and paint of piles are described in addendum #1.

**Is it your intention to apply the second coat after driving? This is highly unusual and very expensive.**

At the option of the Contractor, the final coat of waterborne inorganic zinc coating may be applied at the shop. Please see addendum #1.

50. **Section 10-1.33, (page #127) requires a 28 working day set period for the test pile to set prior to static load testing. Does the 28 working days start after the initial driving or after the last retap?**

A 28 day set period begins after the pile is driven to the specified tip elevation. Please see addendum #1.

51. **Where are the control areas for the pile load testing?**

The control locations for Test Site Location A is from Sta 30+31 to Sta 68+60 and Test Site Location B is from Sta 68+61 to Sta 109+00. Please see addendum #1.

52. **Ref: Drawing Sheets 280, 281 and 282. The elevation views of the pile on these drawings show the pile cutoff line referenced to two locations relative to the bottom of the precast bent cap. One location is 75 mm below the cap, the other location is 50 mm into the cap. The various views in other parts of the plans do not clarify this. What is your intention?**

Please see the revised Section 10-1.33 "Piling," Subsection, "Installation" in addendum #1.

53. **Sheet 232 of 347 shows the Double-T depths as 826 on the typical section and 813 in the table. Which is correct?**

Please see revised sheet 232 of 347 in Addendum #1 for the correct depth.

**54. How is one to use your "Bidders Inquiry form"? I could not find any instructions to use it on screen.**

There are two versions of the Bidder Inquiry Form. There is a Microsoft Word 97 version. You can download this form and use your Word software to complete the form, and then mail or fax it to the duty senior (address and fax number are near the top of this web page).

There is also an Adobe Acrobat version of the form. If you have downloaded and installed the proper plug-in (it's free), you can complete this form on-screen by using the TAB key and/or your mouse to move around. Once completed, you can print and mail or fax the form to the duty senior. See the Adobe Website at [www.adobe.com](http://www.adobe.com) to acquire the plug-in.

Of course, you can also save your completed form as an electronic file and email it as an attachment to the duty senior.

**55. Special Provisions section 5-1.14 states "no Contractor's equipment will be allowed to rest on the bottom of the bay." The States could save a substantial amount of money if the Contractor was allowed to rest on the bottom during periods of low tide.**

The engineer has considered your comments and determined that there is no need for a change in the specifications for the issue in question at this time. Therefore, please bid in accordance with the plans and specifications.

**56. Reference Section 10-1.14, on page 89, "The boat, boat operator and crew shall be furnished for the complete duration of the work on the days when the Contractor's work is in progress and for 8 hours each day and any additional shifts worked by the Contractor, excluding Sundays and legal holidays on the days when the Contractor's work is not in progress." Please confirm that the boat, operator and crew will not be required on a Saturday if the Contractor's work is not in progress on that day.**

If the Contractor's work is not in progress on a Saturday, then the boat, boat operator and crew shall be furnished for 8 hours on that Saturday.

**57. It is our opinion and the opinion of the marine suppliers that the boat specified for Section 10-1.14 TRANSPORTATION FOR THE ENGINEER is too small and light. It is our understanding that this was found to be the case on the San Mateo Bridge Retrofit Project currently ongoing and the specification was changed. Please check into this issue and confirm.**

The engineer has reviewed your inquiry and determined that there is no need for a change in the specifications for the issue in question at this time. Please note that Section 10-1.14, "TRANSPORTATION FOR THE ENGINEER" has been revised per addendum #1.

**58. In Section 3-1.01B, "Award of Contract" the third paragraph specifies that each of the two bonds (payment and performance) are required and shall be in a sum equal to 100 percent of the contract price. Does this mean that the payment bond is 100% of the contract price and the performance bond is 100% of the performance price? In Section 5-1.005 "Contract Bonds," item 3 under the second paragraph requires the payment bond be 25% of the total amount.... There appears to be a conflict.**

Addendum #1, dated October 1, 1999, amended Section 5-1.005 to read: "Each of the two bonds required in Section 3-1.02, "Contract Bonds," of the Standard Specifications shall be in a sum equal to 100 percent of the contract price.

**59. I recently read an article in the Sacramento Bee which mentioned that Governor Davis recently signed an Executive Order requiring prequalification of all contractors on public works projects. The article alluded that the Executive Order was issued to ensure the highest quality work and materials on State public works jobs. My question is how will this prequalification project change or alter the bid process or qualifications for the San Mateo-Hayward contract opening on October 13, 1999? Is there additional information or forms required by Cal-Trans that are different from past bid packages on the bridge jobs?**

Bid it as you see it.

60. **If a contractor intends to bid as a Joint Venture, can they qualify for "California Company Preference" if they obtain a Joint Venture license after bid opening but prior to award.**

A Joint Venture license may be obtained after bid opening and prior to award as indicated on page 2, Notice To Contractors. However, for the purposes of award the contractor must have a Joint Venture license prior to bid opening in order to qualify for "California Company Preference".

61. **Please refer to Section 10-1.02 of the special provisions, which deals with the "designated portion of the work." The pile load test at Sta. 108+88 will be within this area and may cause significant interference with the grading and paving that is to be done here. Is the pile test to be undertaken after the grading and paving, or is to be fitted into the same time slot as the rest of the "designated portion of the work?"**

The pile load test operation at Station 108+88 (location "B") is not subject to the time limit specified for completion of the work in the "Designated Portion of the Work" and can be done any time at the discretion of the Contractor.

62. **In as much as Caltrans will not allow barges to sit on the bottom or allow dredging to gain access, will they permit long permit loads to be on the highway at night after dark, which is the only time the contractor can shut down a lane of the bridge for deliveries. These deliveries would come from Petaluma, Pleasanton, Stockton Napa, Redding etc.**

The contractor must obtain the proper permits for any oversize loads and must comply with all the requirements of the Vehicle Code. The contractor is encouraged to contact Caltrans Transportation Permit Inquiry Unit at 916-322-1297 to obtain permit load information.

63. **Will the Contractor be charged working days during the Pile Test Period as outlined on pg. 129 of Specifications if this impacts the controlling item of work?**

Yes.

64. **We request that you consider extending the date for receiving bids on this project.**

Bid opening has been delayed by Addendum #3. Bid opening date is October 27, 1999.

65. **Several questions that have been asked to clarify the scope of work have not been answered (on your web page). Further, responses on the web page are prefixed with a statement to the effect that these responses are not a part of the contract until incorporated into a formal addendum. We respectfully suggest an addendum be issued answering all the questions and the bidders be given additional time to incorporate the answers into their bids.**

Addendum #1, #2 and #3 have been issued.

66. **Since 08/31/99 we have sent 3 requests for clarification on the above project, and have yet to receive a response for any. It would appear that there are items in the specifications that need clarification, yet no addendum has been issued to date, we are unable to verify that one might be forthcoming, and we are within 2 weeks of the bid date. With the number of alternatives that must be considered and the lead time required by the contractor to complete a rational and competitive bid, it seems unreasonable to assume the time left is sufficient. If any changes to the plans or specifications are forthcoming.**

**Can you please confirm whether or not an addendum will be issued for this project, and whether or not the bid date will remain as 10/13/99?**

Addendum #1, #2 and #3 have been issued. Bid opening has been delayed by Addendum #3. Bid opening date is October 27, 1999.

**67. In the Standard Specifications, in Section 49-1.09, the Contractor has the option of pile anchor dowels. Is this allowed? Are there details available? On sheet 280 of 347, the PC/PS concrete pile shows the "no splice allowed in pile reinf" for the vertical reinforcement, the No. 32 bars in Alternative 1 have 1.45 meter stick-up and Alternative 2 have 1.68 meter stick-up . How can this be accomplished?**

No splices will be allowed.

**68. We would like to request an extension of the bid opening because of this stringent testing required on the ultimate butt splices. We would like to run some tests to see the effects on grinding on the #25 resistance welds to make sure they will meet the requirements of an "ultimate splice".**

Bid opening has been delayed by Addendum #3. Bid opening date is October 27, 1999.

**69. Addendum 1 changed the payment for the cip pile plug rebar from the bridge rebar to "Drive pile" items. Wouldn't this change the bridge rebar final pay quantities?**

The final pay quantities for bar reinforcing steel are correct.

**Please note:**

Response to inquiry #18 was modified September 28, 1999

Response to inquiry #30 was modified October 4, 1999.

Response to inquiry #17 was modified October 12, 1999.

Response to inquiry #60 was modified October 12, 1999.

PLEASE NOTE: INQUIRIES SUBMITTED WITHIN SEVENTY-TWO (72) HOURS OF THE BID OPENING DATE MIGHT NOT BE ADDRESSED.

